REMARKS

Previously, claims 10, 20-21 and 24-25 were pending in this application. Claims 20 and 21 are cancelled without prejudice to or disclaimer of the underlying subject matter. Claims 1-9, 11-19, and 22-23 were previously cancelled without prejudice to or disclaimer of the underlying subject matter. No new matter enters by way of this amendment. Upon entry of the foregoing amendment, claims 10 and 24-25 will be pending.

I. Status of Prosecution

An appeal brief was filed on November 5, 2004. The Examiner indicates in the Office Action, however, that "[I]n view of the appeal brief filed on 11/5/2004, PROSECUTION IS HEREBY REOPENED." Office Action at page 2. Moreover, the Examiner indicates that "[n]ew grounds of rejection are set forth" in the Office Action. *Id.* The Examiner also requires the Applicant to either: "(1) file a reply under 37 CFR 1.111...; or (2) request reinstatement of the appeal." *Id.* Applicants acknowledge that prosecution has been reopened in the present Office Action and Applicants submit the instant amendment and response under 37 CFR 1.111.

II. Claim Rejections – 35 U.S.C. § 101

Claims 10, 20-21, and 24-25 stand rejected under 35 U.S.C. § 101 "because the claimed invention is not supported by either a specific or substantial asserted utility or a well established utility." Office Action at page 3. As claims 20 and 21 have been cancelled without prejudice to or disclaimer of the underlying subject matter, Applicants respond to this rejection as it applies to claims 10 and 24-25. Applicants respectfully traverse this rejection for at least the following reasons.

The Examiner bases this rejection on two basic premises. First, the Examiner alleges "the disclosed uses are generally applicable to broad classes of this subject matter." Office Action at page 5. Second, the Examiner asserts that "further characterization of the claimed subject matter would be required to reasonably confirm a 'real world' use." *Id.* Applicants respectfully disagree.

The "threshold for utility is not high: An invention is 'useful' under section 101 if it is capable of providing some identifiable benefit." *Juicy Whip, Inc. v. Orange Bang, Inc.*, 185 F.3d 1364, 1366, 51 U.S.P.Q.2d 1700, 1702 (Fed. Cir. 1999), *citing Brenner v. Manson*, 383 U.S. 519, 534 (1966). Furthermore, an invention need only provide one identifiable benefit to satisfy 35 U.S.C. § 101. *See Raytheon Co. v. Roper Corp.*, 724 F.2d 951, 958, 220 U.S.P.Q. 592, 598 (Fed. Cir. 1983) ("when a properly claimed invention meets at least one stated objective, utility under section 101 is clearly shown").

The courts have expressed a test for utility that hinges on whether an invention provides an "identifiable benefit." *Juicy Whip, Inc. v. Orange Bang, Inc.*, 185 F.3d 1364, 1366, 51 U.S.P.Q.2d 1700, 1702 (Fed. Cir. 1999), *citing Brenner v. Manson*, 383 U.S. 519, 534 (1966). For analytical purposes, the requirement for an "identifiable benefit" may be broken into two prongs: (1) the invention must have a specific, *i.e.*, not vague or unknown benefit, *In re Brana*, 51 F.3d 1560, 1565, 34 U.S.P.Q.2d 1436, 1440 (Fed. Cir. 1995); and (2) the invention must provide a real world, *i.e.*, practical or "substantial" benefit. *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1563, 39 U.S.P.Q.2d 1895, 1899 (Fed. Cir. 1996). A corollary to this test for utility is that the invention must not be "totally incapable of achieving a useful result," *i.e.*, the utility must not be

incredible or unbelievable. *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1571, 24 U.S.P.Q.2d 1401, 1412 (Fed. Cir. 1992).

The Examiner acknowledges that the specification asserts that the claimed nucleic acid sequence "encodes a maize or soybean copalyl diphosphate synthase enzyme or fragment thereof." Office Action at page 4. The Examiner further acknowledges that the utilities are "based upon homology/identity to experimentally known sequences of the cDNA for a maize kaurene synthase A, also known as copalyl diphosphate synthase. *Id.* However, the Examiner asserts that "[i]t is known for nucleic acids as well as proteins, for example, that even a single nucleotide or amino acid change or mutation can destroy the function of the biomolecule in many instances, albeit not in all cases." *Id.*, at page 5. The Examiner also asserts that the claimed sequence is not disclosed as a full-length open reading frame and "it is unpredictable if SEQ ID NO: 7 will successfully encode a functional enzyme." *Id.*, at page 6. The Examiner additionally asserts that further research would be required to confirm a 'real world' use. *Id.*, at page 5.

One of the utilities disclosed in the specification is use of the claimed nucleic acid molecules to encode a copalyl diphosphate synthase or fragment thereof. Specification at page 16, lines 10-17, page 45, line 14 through page 46, line 14 and Table A. The Examiner has previously acknowledged that "applicant(s) have listed this sequence which is known in the prior art and which has a high percentage similarity (95%, table A) to a claimed sequence, SEQ ID NO: 7." Final Action mailed May 5, 2004 at page 4. The Examiner argues however that this utility is not specific or substantial, apparently because "the citation of sequence similarity results in an unpredictable and therefore unreliable correspondence between the claimed nucleotide and the indicated similar nucleotides of known function and therefore lacks support regarding utility

and/or enablement." Office Action at page 5. More specifically, the Examiner argues that "[I]t is known for nucleic acids as well as proteins, for example, that even a single nucleotide or amino acid change or mutation can destroy the function of the biomolecule in many instances, albeit not in all cases." *Id.* While the Examiner proceeds to analyze SEQ ID NO: 7 by citing several publications generally describing the unpredictability of the relationship between sequence and function, the Examiner provides no support to show that SEQ ID NO: 7 does not function as described by the specification.

The Examiner also argues that there is "reason to doubt whether SEQ ID NO: 7 itself or whether the full cDNA (if one exists) that comprises SEQ ID NO: 7 will successfully encode a functional enzyme." Office Action at page 6. The Examiner refers to several publications suggesting that some plant species may contain CPS pseudogenes, and that certain N-terminal deletions in other CPS genes may destroy gene activity. *Id.* However, the Examiner further argues that "[g]iven the state of the post filing date art, it is reasonable to assume that more than one CPS exists in maize." *Id.* at page 7. Such an argument supports Applicants' assertion that SEQ ID NO: 7 encodes a CPS. Furthermore, the Examiner has provided no support that SEQ ID NO: 7 does not encode a functional copalyl diphosphate synthase enzyme or fragment thereof and attempts to shift the burden to the Appellant.

The Examiner argues that sequence similarity does not reliably predict a protein's function in some cases. Office Action at page 5. However, the Examiner admits that this is not true in all cases. *Id.* The specification provides extensive evidence based on sequence identity that the claimed nucleic acid molecules encode a polypeptide having 95% identity to a known copalyl diphosphate synthase. *See, e.g.,* specification at page 210 (Table A). The specification also in-

dicates by way of the description of the enzymatic function of copalyl diphosphate synthase that the specified enzyme has well-known enzymatic function in the art. *See, e.g.,* specification at page 3, lines 1-5. Further a detailed description of the characterization of the specified enzyme and its role in the gibberellin biosynthetic pathway. *See, e.g.,* specification at pages 2-5.

An examiner must accept a utility by an applicant unless the Office has evidence or sound scientific reasoning to rebut the assertion. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992). "More specifically, when a patent application claiming a nucleic acid asserts a specific, substantial, and credible utility, and bases the assertion upon homology to existing nucleic acids or proteins having an accepted utility, the asserted utility must be accepted by the examiner unless the Office has sufficient evidence or sound scientific reasoning to rebut such as assertion." Federal Register 66(4):1096, Utility Guidelines (2001). "[A] 'rigorous correlation' need not be shown in order to establish practical utility; 'reasonable correlation' is sufficient." *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1565, 39 U.S.P.Q.2d 1895, 1900 (Fed. Cir. 1996).

The claimed nucleic acid molecules have been asserted to encode a copalyl diphosphate synthase or fragment thereof. The specification provides ample correlation between the claimed nucleic acid molecule and copalyl diphosphate synthase proteins. Accordingly, the assertion of the use of the claimed nucleic acid molecules to encode a copalyl diphosphate synthase or fragment thereof satisfies the utility requirement of 35 U.S.C. § 101.

The Examiner further argues that additional "experimentation would be required to reasonably confirm the 'real world' use for detection or isolation" of homologue sequences in maize and non-maize plants. Office Action at pages 8-9. The Examiner apparently refers to Appli-

cants' Appeal Brief arguments in response to a 35 U.S.C. § 102(b) to argue that "if SEQ ID NO: 7 does not hybridize to the nucleic acid sequence of L37750...." Applicants note that they stated that the "Examiner has presented no evidence to support the assertion that GenBank L37750 would specifically hybridize to a nucleic acid molecule comprising a nucleic acid sequence of SEQ ID NO: 7 under the conditions provided for in the specification." Appeal Brief filed November 5, 2004 at page 30. Applicants did not assert whether the cited reference would or would not hybridize to SEQ ID NO: 7, they simply set forth that the Examiner was inappropriately attempting to "shift the burden of proof to Applicants to provide evidence that the nucleic acids are not identical and would not hybridize to the claimed nucleic acid molecules." *Id.* at page 31.

In addition to encoding a copalyl diphosphate synthase, the specification describes multiple other utilities for the present invention that are independent of the sequence's ability to encode a copalyl diphosphate synthase enzyme or fragment thereof, including isolating a variety of agronomically significant genes, acquiring molecular markers, promoters, cis-regulatory elements, identifying polymorphisms, and as probes for assisting in the isolation of full-length cDNAs or genes, gene mapping, isolation of homologous sequences, and the detection of gene expression. *See, e.g.*, specification at page 57, line 3 *et seq*, under the heading "Uses of the Agents of the Invention." Any of these utilities described alone is enough to satisfy 35 U.S.C. § 101. Because Applicant need only establish a single utility to satisfy 35 U.S.C. § 101, and because he has done so in the present case, the premise of the rejection under Section 101 is incorrect, and the rejection should be withdrawn. The Examiner denigrates these utilities however, because "further research is required for such uses." Office Action at page 11.

Many of the disclosed utilities in this case, including these utilities, are directly analogous to the utilities of a microscope, *i.e.*, the claimed nucleic acid molecules may be used to locate and measure nucleic acid molecules within a sample, cell, or organism. The Examiner denigrates this utility by alleging that these uses are not "useful" because the "identification of the presence or absence of a polymorphism is strictly speaking a hunting license which requires further research to the presence of a polymorphism." Office Action, page 11. However, the fact that, for example, a new and nonobvious microscope or screening assay can be used for learning about products or processes does not lessen the fact that such "tools" have legal utility. "Many research tools such as gas chromatographs, screening assays, and nucleotide sequencing techniques have clear, specific and unquestionable utility (*e.g.*, they are useful in analyzing compounds)." MPEP § 2107.01 at page 2100-33.

Applicants maintain that use of the claimed nucleic acid molecules to detect the presence or absence of polymorphisms is no more legally insufficient than using a gas chromatograph to analyze the chemical composition of a gas – such use determines information about the gas, not the gas chromatograph. Even if the gas chromatograph detects the absence of a particular chemical element in the gas, that finding does not obviate the utility of the gas chromatograph itself. Information has been obtained about the gas. Likewise, the claimed nucleic acid molecules have utility even if the absence of a particular polymorphism is detected. Indeed, the absence of a polymorphism usefully demonstrates that the two (or more) populations being compared share a common genetic heritage.

The Examiner also asserts that the claimed nucleic acid molecules lack utility apparently because the "specification lacks a discussion of any specific or substantial phenotypic association

or even predisposition regarding any claimed nucleic acid." Office Action at page 11. Applicants respectfully submit that the skilled artisan would be able to ascertain these uses and activities based on Applicants' disclosure and tools available to practitioners in the art, *e.g.*, BLASTX. Furthermore, such disclosure is not necessary to use the claimed nucleic acid molecules for the disclosed utilities, for example, as probes, to detect the presence or absence of polymorphisms, and in cosuppression/antisense applications. The claimed sequence has utility even without such disclosure, *e.g.*, of a particular polymorphism associated with a trait or traits. The presence or absence of a polymorphism between two or more populations demonstrates genetic heritage. For example, the absence of a polymorphism usually indicates that the two (or more) populations being compared share a common genetic heritage.

The Examiner has not provided any evidence that would reasonably suggest that the claimed nucleic acids cannot be used for the aforementioned utilities, and therefore has not met the burden of proof required to establish a utility rejection. *See In re Brana*, 51 F.3d 1560, 1567, 34 U.S.P.Q.2d 1436, 1441 (Fed. Cir. 1995). *Accord In re Gaubert*, 524 F.2d 1222, 1225-26, 187 U.S.P.Q. 664, 666 (C.C.P.A. 1975); *In re Langer*, 503 F.2d 1380, 1391, 183 U.S.P.Q. 288, 297 (C.C.P.A. 1974). In fact, the Examiner has provided no evidence challenging the disclosed utilities for the presently claimed nucleic acid molecules. The Examiner "must do more than merely question operability - [she] must set forth factual reasons which would lead one skilled in the art to question the objective truth of the statement of operability." *In re Gaubert*, 524 F.2d 1222, 1225-26, 187 U.S.P.Q. 664, 666 (C.C.P.A. 1975) (emphasis in original); MPEP § 706.03(a)(1) ("Office personnel are reminded that they must treat as true a statement of fact made by an applicant in relation to an asserted utility, unless countervailing evidence can be provided..."). In the

Office Action, the Examiner provides no evidence challenging the disclosed utilities for the presently claimed nucleic acid molecules.

The Examiner further has not assessed the credibility of the presently asserted utilities. Credibility is precisely the issue that the courts have emphasized in evaluating the adequacy of an asserted utility. Utility is determined "by reference to, and a factual analysis of, the disclosure of the application." *In re Ziegler*, 992 F.2d 1197, 1201, 26 U.S.P.Q.2d 1600, 1603 (Fed. Cir. 1993), *quoting Cross v. Iizuka*, 753 F.2d 1040, 1044, 224 U.S.P.Q. 739, 742 (Fed. Cir. 1985). The Examiner "has the initial burden of challenging a presumptively correct assertion of utility in the disclosure." *In re Brana*, 51 F.3d 1560, 1567, 34 U.S.P.Q.2d 1436, 1441 (Fed. Cir. 1995). The utilities asserted in the specification must be accepted as factually sound unless the Patent Office cites information that undermines the credibility of the assertion. *Id.* As previously stated, the Examiner "must do more than merely question operability – [she] must set forth factual reasons which would lead one skilled in the art to question the objective truth of the statement of operability." *In re Gaubert,* 524 F.2d 1222, 1224-25, 187 U.S.P.Q. 664, 666 (C.C.P.A. 1975) (emphasis in original); MPEP § 706.03(a)(1) ("Office personal are reminded that they must treat as true a statement of fact made by an applicant in relation to an asserted utility, unless countervailing evidence can be provided..."). Here, the Examiner has not even attempted to meet this burden.

Applicants have disclosed several specific, substantial and credible utilities for the claimed nucleic acid molecules. Any one of these utilities is enough to satisfy the requirements of 35 U.S.C. § 101. Because Applicants need only establish a single utility to satisfy 35 U.S.C.

§ 101, and have done so in the present case, the rejection under Section 101 is incorrect. Reconsideration and withdrawal of this rejection are respectfully requested.

III. Claim Rejections – 35 U.S.C. § 112, First Paragraph, Enablement

The Examiner has rejected claims 10, 20, 21, 24, and 25 as not being enabled by the specification, because the claimed invention allegedly lacks utility. Office Action page 14. Applicants respectfully disagree. Applicants note that claims 20 and 21 have been cancelled without prejudice to or disclaimer of the underlying subject, and therefore respond to this rejection as it applies to claims 10 and 24-25. Applicants assert that the rejection is erroneous and has been overcome by the foregoing arguments regarding utility. Thus, the enablement rejection under 35 U.S.C. § 112, first paragraph is improper. Reconsideration and withdrawal are respectfully requested.

The Examiner further alleges that the specification "while being enabling for making the nucleic acid sequence of SEQ ID NO: 7 or it's [sic] complement, does not reasonably provide enablement for making or using the nucleic acids encompassed by the broad scope of claims 10, ..., 24, and 25." Office Action at page 14. Applicants respectfully disagree. Applicants submit that an analysis of the criteria presented by *In re Wands* supports Applicant's position that no undue experimentation would be required to make and use the claimed invention. *See In re Wands*, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1998).

The first *Wands* criterion is the quantity of experimentation necessary. Applicants maintain that the "make-and-test" quantum of experimentation is reduced by the extensive knowledge, *e.g.*, of conservative nucleotide substitutions, identification of an active site, and conserved regulatory elements, to which a person of ordinary skill in the art has access. The Exam-

iner generally asserts that undue experimentation would be required by the skilled artisan to use the instant invention. Office Action at page 16. However, one skilled in the art is sufficiently guided by Applicants' disclosure, which sets forth nucleic acid molecules and methods of use thereof in the production of transformed cells and plants. Further, performing routine and well-known steps, such as sequence alignment protocols, transformations and gene expression analysis, cannot create undue experimentation even if it is laborious. *See In re Angstadt*, 537 F.2d 498, 504, 190 USPQ 214, 218-219 (C.C.P.A. 1976).

The second and third *Wands* criteria relate to the amount of direction or guidance given, and the presence or absence of working examples. Again, the specification provides evidence of sequence identity and hybridization conditions, discusses the use of the claimed nucleic acid molecules to encode a copalyl diphosphate synthase or fragment thereof and discusses the use of the claimed nucleic acid sequence to isolate additional sequences within a genome. *See, e.g.,* Specification at pages 41, line 6 through page 42, line 2, Examples 1-4, the sequence listing and Table A. Based on such disclosure, one of ordinary skill in the art would be enabled to make and use the invention commensurate in scope with the claims.

The fourth, fifth, and sixth *Wands* criteria focuses on the nature of the invention, the state of the art, and the relative skill in the art. The specification provides a detailed description of the nucleic acid sequences required by the claims, and further describes the preparation of constructs and methods of use related thereto. *See, e.g.*, specification at page 84, line 21 through page 103, line 11, page 107, line 4 through page 119, line 16 and Table A (describing nucleic acid molecules of the present invention as encoding a copalyl diphosphate synthase), and page 93, line 15 through page 103, line 11 (describing use of the claimed nucleic acid molecules in methods of

transforming plants). Practitioners in this art are guided by considerable knowledge and resources on the conditions and approaches that can be utilized to identify, confirm, and introduce into other hosts, nucleic acid and amino acid sequences.

The seventh criterion considers the predictability of the art. Appellant respectfully asserts, as discussed *supra*, that the specification discloses sufficient guidance to render the results of transformations with the claimed nucleic acid molecules predictable. *See, e.g.,* specification at page 84, line 21 through page 103, line 11. Furthermore, the specification provides sufficient guidance to one of skill in the art to decipher the information necessary to make and use the claimed nucleic acid molecules. *See, e.g.,* specification at page 2, line 9 through page 5, line 18 (describing nucleic acid molecules and enzymes involved in the gibberellin biosynthetic pathway), and page 73, line 12 through page 80, line 7 (citing methods for assaying gene expression).

The eighth criterion focuses on the breadth of the claims. Enablement is satisfied when the disclosure "adequately guide[s] the art worker to determine, without undue experimentation, which species among all those encompassed by the claimed genus possess the disclosed utility". *See In re Vaeck,* 947 F.2d 488, 496, 20 U.S.P.Q.2d 1438, 1445 (Fed. Cir. 1991). In the present case, one of skill in the art is specifically guided by the disclosure to look to, *e.g.*, sequence identity data in making that determination.

The Examiner has not met the evidentiary burden to impose an enablement rejection. A specification that discloses how to use a claimed invention "must be taken as in compliance with the enabling requirement of the first paragraph of § 112 unless there is reason to doubt the objective truth of the statements contained therein." *In re Brana*, 51 F.3d 1560, 1566, 34 U.S.P.Q.2d

1436, 1441 (Fed. Cir. 1995), *quoting In re Marzocchi*, 439 F.2d 220, 223, 169 U.S.P.Q. 367, 369 (C.C.P.A. 1971) (emphasis in original).

The Examiner has provided no evidence supporting the rejection of why the specification allegedly fails to enable the nucleic acid molecules of claims 10 and 24-25. *See In re Wright*, 999 F.2d 1557, 1561-62, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993); *Ex parte Lemak*, 210 U.S.P.Q. 306, 307 (B.P.A.I. 1981) ("pure conjecture" does not substantiate rejection for lack of enablement). Therefore, because the above analysis illustrates that the specification clearly enables at least the methods of making and using the invention as set forth in the Examples, and the claims, the enablement requirement has been satisfied. *Cf. Johns Hopkins University v. CellPro*, 152 F.3d 1342, 1361, 47 U.S.P.Q.2d 1705, 1719 (Fed. Cir. 1998) ("the enablement requirement is met if the description enables <u>any</u> mode of making and using the invention") (emphasis added), *quoting Engel Indus. v. Lockformer Co.*, 946 F.2d 1528, 1533, 20 U.S.P.Q.2d 1300, 1304 (Fed. Cir. 1991). Therefore, because the above analysis illustrates that the specification clearly enables at least the methods of making and using the invention as set forth in the Examples, and the claims, the enablement requirement has been satisfied. *Cf. Johns Hopkins University v. CellPro*, 152 F.3d 1342, 1361, 47 U.S.P.Q.2d 1705, 1719 (Fed. Cir. 1998) ("the enablement requirement is met if the description enables <u>any</u> mode of making and using the invention") (emphasis added), *quoting Engel Indus. v. Lockformer Co.*, 946 F.2d 1528, 1533, 20 U.S.P.Q.2d 1300, 1304 (Fed. Cir. 1991). Accordingly, Applicants respectfully request reconsideration and withdrawal of the enablement rejection under 35 U.S.C. § 112, first paragraph.

IV. Claim Rejections – 35 U.S.C. § 112, First Paragraph, Written Description

The Examiner has rejected claims 20 and 21 under 35 U.S.C. § 112, first paragraph, for allegedly lacking an adequate written description. Office Action at page 23. Applicants respectfully disagree.

Applicants acknowledge that the rejection "has not been maintained for claims 10, 24, and 25." Office Action at page 26.

An adequate written description of a genus of nucleic acids, as recited in claim 20 may be achieved by either "a recitation of a representative number of [nucleic acid molecules], defined by nucleotide sequence, falling within the scope of the genus or of a recitation of structural features common to the members of the genus." *Regents of the University of California v. Eli Lilly and Co.*, 119 F.3d 1559, 1568-69 (Fed. Cir. 1997). The feature relied upon to describe the claimed genus must be capable of distinguishing members of the claimed genus from non-members. *Id.*

The purpose of the written description requirement is to ensure that the inventors had possession of the claimed subject matter, *i.e.*, to ensure that the inventors actually invented what is claimed. *Gentry Gallery Inc. v. Berkline Corp.*, 134 F.3d 1473, 1479, 45 U.S.P.Q.2d 1498, 1503 (Fed. Cir. 1998); *Lockwood v. American Airlines*, 107 F.3d 1565, 1572, 41 U.S.P.Q.2d 1961, 1966 (Fed. Cir. 1997); *In re Alton*, 76 F.3d 1168, 1172, 37 U.S.P.Q.2d 1578, 1581 (Fed. Cir. 1996). In accordance with this purpose, Applicants need not "describe," in the sense of Section 112, all things that are encompassed by the claims. To contend otherwise would contradict established jurisprudence, which teaches that a patent may be infringed by technology developed after a patent issues. *United States Steel Corp. v. Phillips Petroleum Co.*, 865 F.2d 1247, 1251, 9

U.S.P.Q.2d 1461, 1464 (Fed. Cir. 1989). A related, and equally well-established principle of patent law is that claims "may be broader than the specific embodiment disclosed in a specification." *Ralston Purina Co. v. Far-mor-Co*, 772 F.2d 1570, 1575, 227 U.S.P.Q. 177, 179 (Fed. Cir. 1985), *quoting In re Rasmussen*, 650 F.2d 1212, 1215, 211 U.S.P.Q. 323, 326 (C.C.P.A. 1981). Thus, in order for Applicants to describe each and every molecule encompassed by the claims, it is not required that every aspect of those nucleic acid molecules (*e.g.*, an open reading frame) be disclosed. *In re Alton,* 76 F.3d 1168, 1175 (Fed. Cir. 1996) (if a person of ordinary skill in the art would have understood the inventor to have been in possession of the claimed invention at the time of filing even if every nuance of the claims is not explicitly described in the specification).

Although Applicants disagree with the Examiner's rejections of claims 20 and 21, to facilitate to prosecution, claims 20 and 21 have been cancelled without prejudice to or disclaimer of the underlying subject matter. Reconsideration and withdrawal of this rejection are respectfully requested.

V. Claim Rejections – 35 U.S.C. § 102

Claim 20 has been rejected under 35 U.S.C. § 102(b), as allegedly "being anticipated by Bensen (Bensen et al, The Plant Cell, vol. 7, pages 75-84, 1995) or in the alternative GenBank Accession Number L37750." Office Action page 27.

Applicants respectfully disagree with this rejection. However, to facilitate prosecution, claim 20 has been cancelled without prejudice to or disclaimer of the underlying subject matter. In view of the above, Applicants contend that the rejection under 35 U.S.C. § 102(b) over

Bensen and Genbank is moot. Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 10, 20, 21, 24, and 25 have also been rejected under 35 U.S.C. § 102, as allegedly being anticipated by products O1256 and O4378 of the Sigma Chemical Catalogue. Claims 20 and 21 have been cancelled without prejudice to or disclaimer of the underlying subject matter. As such, Applicants respond with respect to claims 10 and 24-25. The Examiner alleges that product O1256, which is a 4-mer oligonucleotide of poly dT nucleotides, and product O4378, which is a 4-mer oligonucleotide of poly dA nucleotides, anticipate claim 10. Applicants respectfully disagree.

"It is axiomatic that for prior art to anticipate under § 102 it has to meet every element of the claimed invention." *Hybritech,* 802 F.2d at 1369. Further, "an anticipation rejection requires a showing that each limitation of a claim must be found in a single reference, practice, or device." *In re Donohue*, 766 F.2d at 534. The Examiner has applied an untenable interpretation of the claims to cover small fragments of the specifically claimed nucleic acid molecule, *i.e.*, molecules as short as four nucleotides, and thus concludes that the claim is anticipated by the cited reference. Office Action at page 29. Whatever else the Sigma Catalogue teaches, it does not disclose SEQ ID NO: 7. Absent a teaching of each and every element of the claim, including the nucleotide sequence of SEQ ID NO: 7, the reference cited by the Examiner does not anticipate claims 10, 24, or 25.

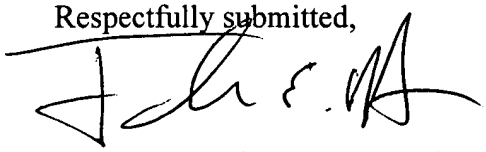
In view of the above, Applicants contend that the rejection under 35 U.S.C. § 102(b) over Sigma is improper. Reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is now in condition for allowance, and notice of such is respectfully requested.

The Examiner is encouraged to contact the undersigned should any additional information be necessary for allowance.

Respectfully submitted,



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